

## IN THE CLAIMS

Kindly amend claims 1-86, without prejudice, as indicated below:

1 (currently amended). A method for operating a distributed computing system, said system including a multiplicity of network-connected worker processors and ~~at least one~~ a plurality of supervisory processorss, said supervisory processorss configured to assign tasks to, and monitor the status of, said worker processors, said method comprising:

assigning tasks to a plurality of said worker processors by sending task-assignment messages, via said network, from said ~~at least one~~ supervisory processorss to said plurality of worker processors; and, monitoring, on a ~~substantially~~ continuous basis, the status of at least each of said plurality of assigned worker processors until each said processor completes its assigned task.

2 (currently amended). A method for operating a distributed computing system, as defined in claim 1, wherein monitoring, on a ~~substantially~~ continuous basis, the status of at least each of said plurality of assigned worker processors comprises receiving status messages from at least each of said plurality of assigned worker processors until each said processor completes its assigned task.

3 (currently amended). A method for operating a distributed computing system, as defined in claim 2, wherein monitoring, on a substantially continuous basis, the status of at least each of said plurality of worker processors further comprises detecting abnormalities in the operation of said plurality of assigned worker processors, and/or their associated network connections, by detecting an absence of expected status message(s) received by said ~~at least~~ **one plurality of** supervisory processorss.

4 (currently amended). A method for operating a distributed computing system, as defined in claim 3,

wherein said act of detecting an absence of expected status message received by said ~~at least one~~ plurality of supervisory processors<sub>s</sub> is repeated at least once every ten minutes.

5 (currently amended). A method for operating a distributed computing system, as defined in claim 3, wherein said act of detecting an absence of expected status message(s) received by said ~~at least one~~ plurality of supervisory processors<sub>s</sub> is repeated at least once every five minutes.

6 (currently amended). A method for operating a distributed computing system, as defined in claim 3, wherein said act of detecting an absence of expected status message(s) received by said ~~at least one~~ plurality of supervisory processors<sub>s</sub> is repeated at least once every two minutes.

7 (currently amended). A method for operating a distributed computing system, as defined in claim 3, wherein said act of detecting an absence of expected status message(s) received by said ~~at least one~~

**plurality of** supervisory processorss is repeated at least once each minute.

8 (currently amended). A method for operating a distributed computing system, as defined in claim 3, wherein said act of detecting an absence of expected status message(s) received by said ~~at least one~~ **plurality of** supervisory processorss is repeated at least once every thirty seconds.

9 (currently amended). A method for operating a distributed computing system, as defined in claim 3, wherein said act of detecting an absence of expected status message(s) received by said ~~at least one~~ **plurality of** supervisory processorss is repeated at least once every ten seconds.

10 (currently amended). A method for operating a distributed computing system, as defined in claim 3, wherein said act of detecting an absence of expected status message(s) received by said ~~at least one~~ **plurality of** supervisory processorss is repeated at least once every second.

11 (currently amended). A method for operating a distributed computing system, as defined in claim 3, wherein said act of detecting an absence of expected status message(s) received by said ~~at least one~~ **plurality of** supervisory processorss is repeated at least once every tenth of a second.

12 (currently amended). A method for operating a distributed computing system, as defined in claim 3, wherein said act of detecting an absence of expected status message(s) received by said ~~at least one~~ **plurality of** supervisory processorss is repeated at least once every hundredth of a second.

13 (currently amended). A method for operating a distributed computing system, as defined in claim 3, wherein said act of detecting an absence of expected status message(s) received by said ~~at least one~~ **plurality of** supervisory processorss is repeated at least once each millisecond.

14 (original). A method for operating a distributed computing system, as defined in claim 1,

wherein monitoring, on a substantially continuous basis, the status of at least each of said plurality of assigned worker processors comprises:

detecting the presence of non-assigned-task-related activity on said worker processors.

15 (original). A method for operating a distributed computing system, as defined in claim 14, wherein detecting the presence of non-assigned-task-related activity on said worker processors includes:

running an activity monitor program on each of said assigned worker processors.

16 (currently amended). A method for operating a distributed computing system, as defined in claim 15, wherein:

the activity monitor programs running on each of said assigned worker processors **behave** ~~substantially like~~ comprise screen saver programs.

17 (currently amended). A method for operating a distributed computing system, as defined in claim 15, wherein:

the activity monitory programs running on each of said assigned worker processors send, in response to detection of keyboard activity, a message to at least one of said ~~at least one~~ plurality of supervisory processorss(s).

18 (currently amended). A method for operating a distributed computing system, as defined in claim 15, wherein:

the activity monitory programs running on each of said assigned worker processors send, in response to detection of mouse activity, a message to at least one of said ~~at least one~~ plurality of supervisory processorss(s).

19 (currently amended). A method for operating a distributed computing system, as defined in claim 15, wherein:

the activity monitory programs running on each of said assigned worker processors send, in response to detection of pointer activity, a message to at least one of said ~~at least one~~ plurality of supervisory processorss(s).

20 (currently amended). A method for operating a distributed computing system, as defined in claim 15, wherein:

the activity monitory programs running on each of said assigned worker processors send, in response to detection of touchscreen activity, a message to at least one of said ~~at least one~~ plurality of supervisory processorss(s).

21 (currently amended). A method for operating a distributed computing system, as defined in claim 15, wherein:

the activity monitory programs running on each of said assigned worker processors send, in response to detection of voice activity, a



message to at least one of said ~~at least one~~  
plurality of supervisory processorss(s).

22 (currently amended). A method for operating a distributed computing system, as defined in claim 15, wherein:

the activity monitory programs running on each of said assigned worker processors send, in response to detection of execution of ~~substantial~~ non-assigned-task-related processes, a message to at least one of said ~~at least one~~ plurality of supervisory processorss(s).

23 (currently amended). A method for operating a distributed computing system, as defined in claim 14, wherein detecting the presence of non-assigned-task-related activity on said worker processors includes:

determining, in response to an activity monitor message received by at least one of said ~~at least one~~ plurality of supervisory ~~of said~~ processorss(s), that at least one of said

assigned worker processors is undertaking non-assigned-task-related activity.

24 (original). A method for operating a distributed computing system, as defined in claim 23, wherein the activity monitor message is generated by an activity monitor program running on one of said assigned worker processors.

25 (currently amended). A method for operating an always-live distributed computing system, comprising:

providing a pool of worker processors, each having installed worker processor software, and each connected to an always-on, peer-to-peer computer network;

providing ~~at least one~~ a plurality of supervisory processors<sub>s</sub>, also connected to said always-on, peer-to-peer computer network;

using said ~~at least one~~ a plurality of supervisory processors<sub>s</sub> to monitor, on a ~~substantially~~ continuous basis, the status of worker

processors expected to be engaged in the processing of assigned tasks; and, using said ~~at least one~~ a plurality of supervisory processors<sub>s</sub> to reassign tasks, as needed, to achieve ~~substantially~~ uninterrupted processing of assigned tasks.

26 (original). A method for operating an always-live distributed computing system, as defined in claim 25, wherein providing a pool of worker processors further includes ensuring that each of said worker processors is linked to said always-on, peer-to-peer computer network through a high-bandwidth connection.

27 (original). A method for operating an always-live distributed computing system, as defined in claim 25, wherein providing a pool of worker processors further includes ensuring that each of said worker processors is linked to said always-on, peer-to-peer computer network at a data rate of at least 100 kilobits/sec.

28 (original). A method for operating an always-live distributed computing system, as defined in claim 25, wherein providing a pool of worker processors further includes ensuring that each of said worker processors is linked to said always-on, peer-to-peer computer network at a data rate of at least 250 kilobits/sec.

29 (original). A method for operating an always-live distributed computing system, as defined in claim 25, wherein providing a pool of worker processors further includes ensuring that each of said worker processors is linked to said always-on, peer-to-peer computer network at a data rate of at least 1 megabit/sec.

30 (original). A method for operating an always-live distributed computing system, as defined in claim 25, wherein providing a pool of worker processors further includes ensuring that each of said worker processors is linked to said always-on, peer-to-peer

computer network at a data rate of at least 10 megabits/sec.

31 (original). A method for operating an always-live distributed computing system, as defined in claim 25, wherein providing a pool of worker processors further includes ensuring that each of said worker processors is linked to said always-on, peer-to-peer computer network at a data rate of at least 100 megabits/sec.

32 (original). A method for operating an always-live distributed computing system, as defined in claim 25, wherein providing a pool of worker processors further includes ensuring that each of said worker processors is linked to said always-on, peer-to-peer computer network at a data rate of at least 1 gigabit/sec.

33 (currently amended). A method for operating an always-live distributed computing system, as defined in claim 25, wherein using said ~~at least one~~ **plurality of** supervisory processors **s** to monitor the status of worker

processors expected to be engaged in the processing of assigned tasks includes:

    sending a status-request message to, and receiving  
        a return acknowledgement from, each worker  
        processor that is expected to be engaged in the  
        processing of assigned tasks.

34 (original). A method for operating an always-live distributed computing system, as defined in claim 33, wherein said process of sending a status-request message to, and receiving a return acknowledgement from, each worker processor that is expected to be engaged in the processing of assigned tasks is repeated at least once every second.

35 (original). A method for operating an always-live distributed computing system, as defined in claim 33, wherein said process of sending a status-request message to, and receiving a return acknowledgement from, each worker processor that is expected to be engaged in the processing of assigned tasks is repeated at least once every tenth of a second.

36 (original). A method for operating an always-live distributed computing system, as defined in claim 33, wherein said process of sending a status-request message to, and receiving a return acknowledgement from, each worker processor that is expected to be engaged in the processing of assigned tasks is repeated at least once every hundredth of a second.

37 (original). A method for operating an always-live distributed computing system, as defined in claim 33, wherein said process of sending a status-request message to, and receiving a return acknowledgement from, each worker processor that is expected to be engaged in the processing of assigned tasks is repeated at least once every millisecond.

38 (currently amended). A method for operating an always-live distributed computing system, as defined in claim 25, wherein using said ~~at least one~~ plurality of supervisory processorss to monitor the status of worker processors expected to be engaged in the processing of assigned tasks includes:

periodically checking to ensure that a heartbeat message has been received, within a preselected frequency interval, from each worker processor that is expected to be engaged in the processing of assigned tasks.

39 (original). A method for operating an always-live distributed computing system, as defined in claim 38, wherein said preselected frequency interval is less than one second.

40 (original). A method for operating an always-live distributed computing system, as defined in claim 38, wherein said preselected frequency interval is less than one tenth of a second.

41 (original). A method for operating an always-live distributed computing system, as defined in claim 38, wherein said preselected frequency interval is less than one hundredth of a second.

42 (original). A method for operating an always-live distributed computing system, as defined in claim



38, wherein said preselected frequency interval is less than one millisecond.

43 (currently amended). A method for operating an always-live distributed computing system, as defined in claim 25, wherein using said ~~at least one~~ plurality of supervisory processorss to reassign tasks, as needed, to achieve **substantially** uninterrupted processing of assigned tasks comprises:

detecting aberrant behavior among the worker processors expected to be engaged in the processing of assigned tasks; and, assigning tasks expected to be completed by said aberrant-behaving worker processor(s) to other available processor(s) in said worker processor pool.

44 (currently amended). A method for operating a network-connected processor as a processing element in a distributed processing system, the method comprising: installing software that enables said network-connected processor to receive tasks from, and

provide results to, ~~one or more~~ a plurality of  
independent, network-connected resourcess(s);  
and,

using the software installed on said network-  
connected processor to provide ~~substantially~~  
continuous status information to ~~an~~ at least  
one of said plurality of independent, network-  
connected resourcess.

45 (currently amended). A method for operating a  
network-connected processor as a processing element in  
a distributed processing system, as defined in claim  
44, wherein using the software installed on said  
network-connected processor to provide ~~substantially~~  
continuous status information to ~~an~~ at least one of  
said plurality of independent, network-connected  
resourcess includes:

sending a heartbeat message to ~~said~~ at least one of  
said plurality of independent, network-  
connected resourcess at least once every second.

46 (currently amended). A method for operating a network-connected processor as a processing element in a distributed processing system, as defined in claim 44, wherein using the software installed on said network-connected processor to provide **substantially** continuous status information to **an at least one of** **said plurality of** independent, network-connected resourcess includes:

sending a heartbeat message to **said at least one of** **said plurality of** independent, network-connected resourcess at least once every tenth of a second.

47 (currently amended). A method for operating a network-connected processor as a processing element in a distributed processing system, as defined in claim 44, wherein using the software installed on said network-connected processor to provide **substantially** continuous status information to **an at least one of** **said plurality of** independent, network-connected resourcess includes:

sending a heartbeat message to **said at least one of**  
**said plurality of** independent, network-  
connected resourcess at least once every  
hundredth of a second.

48 (currently amended). A method for operating a  
network-connected processor as a processing element in  
a distributed processing system, as defined in claim  
44, wherein using the software installed on said  
network-connected processor to provide **substantially**  
continuous status information to **an at least one of**  
**said plurality of** independent, network-connected  
resourcess includes:

sending a heartbeat message to **said at least one of**  
**said plurality of** independent, network-  
connected resourcess at least once every  
millisecond.

49 (currently amended). A method for operating a  
network-connected processor as a processing element in  
a distributed processing system, as defined in claim  
44, wherein using the software installed on said

network-connected processor to provide ~~substantially~~  
continuous status information to ~~an~~ said plurality of  
independent, network-connected resourcess includes:

responding to status-request messages, received  
from ~~said~~ at least one of said plurality of  
independent, network-connected resourcess,  
within one second.

50 (currently amended). A method for operating a  
network-connected processor as a processing element in  
a distributed processing system, as defined in claim  
44, wherein using the software installed on said  
network-connected processor to provide ~~substantially~~  
continuous status information to ~~an~~ said plurality of  
independent, network-connected resourcess includes:

responding to status-request messages, received  
from ~~said~~ at least one of said plurality of  
independent, network-connected resourcess,  
within one tenth of a second.

51 (currently amended). A method for operating a  
network-connected processor as a processing element in

a distributed processing system, as defined in claim 44, wherein using the software installed on said network-connected processor to provide ~~substantially~~ continuous status information to ~~an~~ said plurality of independent, network-connected resourcess includes:

responding to status-request messages, received from ~~said~~ at least one of said plurality of independent, network-connected resourcess, within one hundredth of a second.

52 (currently amended). A method for operating a network-connected processor as a processing element in a distributed processing system, as defined in claim 44, wherein using the software installed on said network-connected processor to provide ~~substantially~~ continuous status information to ~~an~~ said plurality of independent, network-connected resourcess includes:

responding to status-request messages, received from ~~said~~ at least one of said plurality of independent, network-connected resourcess, within one millisecond.

52 (currently amended). A method for operating a network-connected processor as a processing element in a distributed processing system, as defined in claim 44, wherein using the software installed on said network-connected processor to provide **substantially** continuous status information to **an said plurality of** independent, network-connected resourcess includes:

    sending, in response to a change in status of said network-connected processor, a status-update message to **said at least one of said plurality of** independent, network-connected resourcess within one second.

53 (currently amended). A method for operating a network-connected processor as a processing element in a distributed processing system, as defined in claim 44, wherein using the software installed on said network-connected processor to provide **substantially** continuous status information to **an said plurality of** independent, network-connected resourcess includes:

sending, in response to a change in status of said network-connected processor, a status-update message to **said at least one of said plurality of** independent, network-connected resources within one tenth of a second.

54 (currently amended). A method for operating a network-connected processor as a processing element in a distributed processing system, as defined in claim 44, wherein using the software installed on said network-connected processor to provide **substantially** continuous status information to **an said plurality of** independent, network-connected resources includes:

sending, in response to a change in status of said network-connected processor, a status-update message to **said at least one of said plurality of** independent, network-connected resources within one hundredth of a second.

55 (original). A method for operating a network-connected processor as a processing element in a



distributed processing system, as defined in claim 52, wherein the change in status that initiates the sending of a status-update message is additional demand for the processing resources of the network-connected processor.

56 (original). A method for operating a network-connected processor as a processing element in a distributed processing system, as defined in claim 52, wherein the change in status that initiates the sending of a status-update message is user input-related activity on the network-connected processor.

57 (currently amended). A distributed computing system comprising:

a multiplicity of worker processors;

~~at least one~~ a plurality of supervisory processorss,

configured to assign tasks to, and monitor the status of, said worker processors;

an always-on, peer-to-peer computer network linking said worker processors and said supervisory processorss~~(s)~~; and,

~~at least one of said at least one~~ said supervisory processor~~s(s)~~ includeing a monitoring module, which monitors the status of worker processors expected to be executing assigned tasks, so as to ensure that the distributed computing system maintains always-live operation.

58 (currently amended). A distributed computing system, as defined in claim 57, wherein the monitoring modules receives~~s~~ status messages from at least each of the worker processors expected to be executing assigned tasks.

59 (currently amended). A distributed computing system, as defined in claim 58, wherein the monitoring modules detects~~s~~ abnormalities in the operation of said worker processors expected to be executing assigned tasks, and/or their associated network connections, by detecting an absence of expected status messages received from said worker processors.

60 (currently amended). A distributed computing system, as defined in claim 59, wherein the monitoring

moduless checks~~s~~ for an absence of expected status messages at least once each minute.

61 (currently amended). A distributed computing system, as defined in claim 59, wherein the monitoring moduless checks~~s~~ for an absence of expected status messages at least once every ten seconds.

62 (currently amended). A distributed computing system, as defined in claim 59, wherein the monitoring moduless checks~~s~~ for an absence of expected status messages at least once each second.

63 (currently amended). A distributed computing system, as defined in claim 59, wherein the monitoring moduless checks~~s~~ for an absence of expected status messages at least once every tenth of a second.

64 (currently amended). A distributed computing system, as defined in claim 57, wherein the monitoring moduless detects~~s~~ the presence of non-assigned-task-related activity on the worker processors expected to be executing assigned tasks.

65 (original). A distributed computing system, as defined in claim 64, further comprising:

activity monitor programs running on each of the  
worker processors expected to be executing  
assigned tasks.

66 (original). A distributed computing system, as defined in claim 65, wherein the activity monitor programs comprise screensaver programs.

67 (currently amended). A distributed computing system, as defined in claim 64, wherein the activity monitor programs detect at least one of the following types of non-assigned task-related activity:

keyboard activity;

mouse activity;

pointer activity;

touchscreen activity;

voice activity; and,

execution of ~~substantial~~ non-assigned-task-related  
processes.

68 (currently amended). A distributed computing system, as defined in claim 64, wherein the activity monitor programs detect at least three of the following types of non-assigned task-related activity:

keyboard activity;

mouse activity;

pointer activity;

touchscreen activity;

voice activity; and,

execution of ~~substantial~~ non-assigned-task-related processes.

69 (currently amended). An always-live distributed computing system, comprising:

a pool of worker processors, each having installed worker processor software, and each connected to an always-on, peer-to-peer computer network; and,

~~at least one~~ a plurality of supervisory processors~~s~~, also connected to said always-on, peer-to-peer computer network, and configured to assign

tasks to said worker processors, monitor, on a **substantially** continuous basis, the status of worker processors expected to be engaged in the processing of assigned tasks and reassign tasks, as needed, to achieve **substantially** uninterrupted processing of assigned tasks.

70 (original). An always-live distributed computing system, as defined in claim 69, wherein said computer network has a bandwidth of at least 250 kilobits/second.

71 (original). An always-live distributed computing system, as defined in claim 69, wherein said computer network has a bandwidth of at least 1 megabit/second.

72 (currently amended). An always-live distributed computing system, as defined in claim 69, wherein the ~~at least one~~ a plurality of supervisory processorss monitors the status of worker processors expected to be engaged in the processing of assigned tasks by sending a status-request messagess to, and

receiving ~~a~~ return acknowledgementss from, each worker processor that is expected to be engaged in the processing of assigned tasks.

73 (currently amended). An always-live distributed computing system, as defined in claim ~~69~~ 72,

wherein the process of sending a status-request messagess to, and receiving ~~a~~ return acknowledgementss from, each worker processor that is expected to be engaged in the processing of assigned tasks is repeated at least once every 10 seconds.

74 (currently amended). An always-live distributed computing system, as defined in claim ~~69~~ 72, wherein the process of sending a status-request messagess to, and receiving ~~a~~ return acknowledgementss from, each worker processor that is expected to be engaged in the processing of assigned tasks is repeated at least once each second.

75 (currently amended). An always-live distributed computing system, as defined in claim ~~69~~ 72, wherein the process of sending a status-request messagess to, and receiving ~~a~~ return acknowledgementss from, each worker processor that is expected to be engaged in the processing of assigned tasks is repeated at least twenty times each second.

76 (currently amended). An always-live distributed computing system, as defined in claim 69, wherein the ~~at least one~~ plurality of supervisory processorss monitors the status of worker processors expected to be engaged in the processing of assigned tasks by periodically checking to ensure that a heartbeat messagess haves been received, within a preselected frequency interval, from each worker processor that is expected to be engaged in the processing of assigned tasks.

77 (original). An always-live distributed computing system, as defined in claim 76, wherein the preselected frequency interval is less than one second.



78 (original). An always-live distributed computing system, as defined in claim 76, wherein the preselected frequency interval is less than one tenth of a second.

79 (original). An always-live distributed computing system, as defined in claim 76, wherein the preselected frequency interval is less than one hundredth of a second.

80 (currently amended). A processing element for use in a distributed processing system that includes a plurality of supervisory processors, the processing element comprising:

at least one processor;

memory;

at least one high-bandwidth interface to a computer

network; and,

worker processor software, configured to receive

tasks from at least one of said plurality of

supervisory processors via said high-bandwidth

interface and to provide, substantially

continuous status information to at least one of said plurality of supervisory processors via said high-bandwidth interface.

81 (currently amended). A processing element, as defined in claim 80, wherein **substantially** continuous status information is provided by sending periodic heartbeat messages.

82 (currently amended). A processing element, as defined in claim 80, wherein **substantially** continuous status information is provided by sending prompt responses to received status-request messages.

83 (currently amended). A processing element, as defined in claim 80, wherein **substantially** continuous status information is provided by promptly sending a status-update message in response to a change in status.

84 (currently amended). Article s(s)-of-manufacture for use in connection with a network-based distributed computing system, the articles s(s)-of-manufacture comprising at least **one two** computer-

readable mediums, each containing instructions which, when executed, cause:

assignment of tasks to a plurality of worker processors via said network; and, monitoring, on a ~~substantially~~ continuous basis, ~~of~~ the status of at least each of said plurality of assigned worker processors until each said processor completes its assigned task.

85 (currently amended). Article s(s)-of-manufacture for use in connection with an always-live distributed computing system, the articles s(s)-of-manufacture comprising ~~at least one~~ a plurality of computer-readable mediums s containing instructions which, when executed, cause:

a pool of worker processors to install worker processor software provided via an always-on, peer-to-peer computer network;

the worker processors in said pool to provide communication paths between said worker processors and ~~at least one~~ a plurality of

supervisory processorss via said always-on,  
peer-to-peer computer network;  
cause said ~~at least one~~ plurality of supervisory  
processorss to monitor, on a ~~substantially~~  
continuous basis, the status of worker  
processors expected to be engaged in the  
processing of assigned tasks; and,  
cause said ~~at least one~~ plurality of supervisory,  
processorss to reassign tasks, as needed, to  
achieve ~~substantially~~ uninterrupted processing  
of assigned tasks.

86 (currently amended). Article(s)-of-manufacture  
for use in connection with a processing element  
constituting a part of a distributed computing system,  
the article(s)-of-manufacture comprising at least one  
computer-readable medium containing instructions which,  
when executed, cause:

worker processor software to be installed that  
permits said processing element to receive  
tasks from, and provide results to, ~~one or more~~

a plurality of independent, network-connected  
resourcess(s); and,  
said installed worker processor software to be  
executed and provide ~~substantially~~ continuous  
status information to ~~one or more of said~~ at  
least one of said plurality of independent,  
network-connected resource(s).